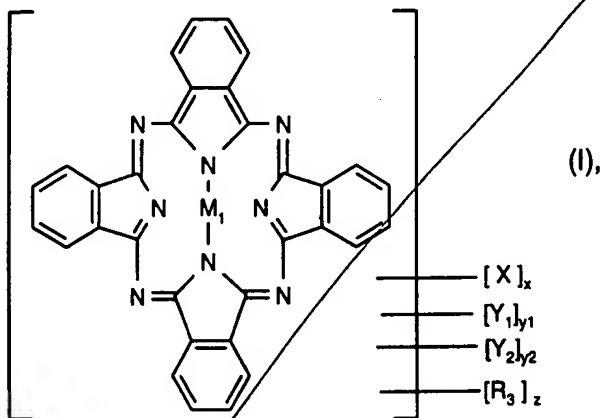


What is claimed is

1. A metallocenyl-phthalocyanine or its metal complex of a divalent metal, oxometal, halogenometal or hydroxymetal, in which at least one of the four phenyl rings of the phthalocyanines contains, bound via a bridge unit E, at least one metallocene radical as substituent, E being composed of a chain of at least two atoms or atom groups selected from the group consisting of $-\text{CH}_2-$, $-\text{C}(=\text{O})-$, $-\text{CH}(\text{C}_1\text{-C}_4\text{alkyl})-$, $-\text{C}(\text{C}_1\text{-C}_4\text{alkyl})_2-$, $-\text{NH}-$, $-\text{S}-$, $-\text{O}-$ and $-\text{CH}=\text{CH}-$.

2. A metallocenyl-phthalocyanine of formula I



wherein

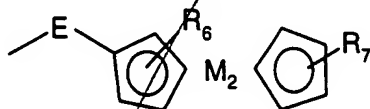
M_1 is a divalent metal, an oxometal group, halogenometal group or hydroxymetal group, or two hydrogen atoms,

X is halogen

Y_1 is $-\text{OR}_1$, $-\text{OOC-R}_2$, $-\text{NHR}_1$, $-\text{N}(\text{R}_1)\text{R}_2$,

Y_2 is $-\text{SR}_1$,

R_3 is



R_6 and R_7 are each independently of the other hydrogen, halogen, $\text{C}_1\text{-C}_4\text{alkyl}$, $\text{C}_1\text{-C}_4\text{alkoxy}$, amino- $\text{C}_1\text{-C}_4\text{alkyl}$, diarylphosphine, or phosphorus-containing $\text{C}_1\text{-C}_4\text{alkyl}$,

x may be a rational number from 0 to 8

y_1 and y_2 may be each independently of the other a rational number from 0 to 6

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z may be a number from 1 to 4,

wherein $(x + y_1 + y_2 + z) \leq 16$,

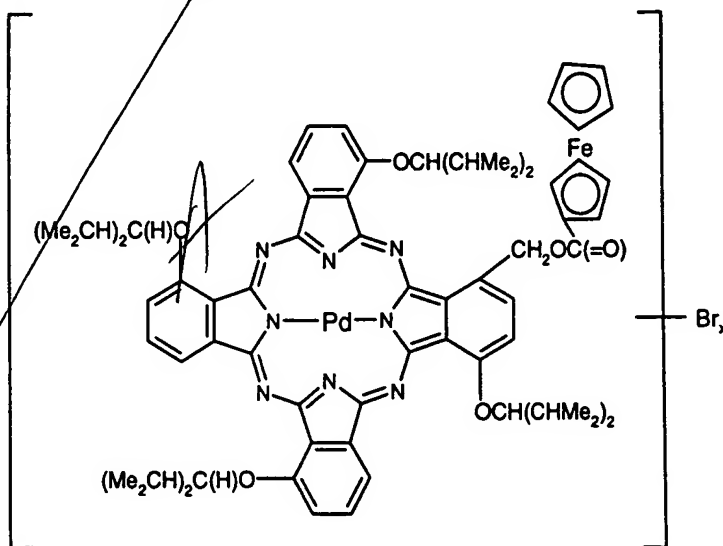
and wherein R_1 and R_2 may be each independently of the other

C_1 - C_{20} alkyl which is unsubstituted or substituted by halogen, hydroxy, C_1 - C_{20} alkoxy, C_1 - C_{20} alkylamino or C_2 - C_{20} dialkylamino and which may be interrupted by $-O-$, $-S-$, $-NH-$ or $-NR_{10}-$, wherein R_{10} may be C_1 - C_6 alkyl,

C_5 - C_{20} cycloalkyl, C_2 - C_{20} alkenyl, C_5 - C_{12} cycloalkenyl, C_2 - C_{20} alkynyl, C_6 - C_{18} aryl or C_7 - C_{18} aralkyl,

and wherein one or two ligands may optionally be bound to the divalent metal atom, the oxo-metal group, halogenometal group or hydroxymetal group, and E is as defined in claim 1.

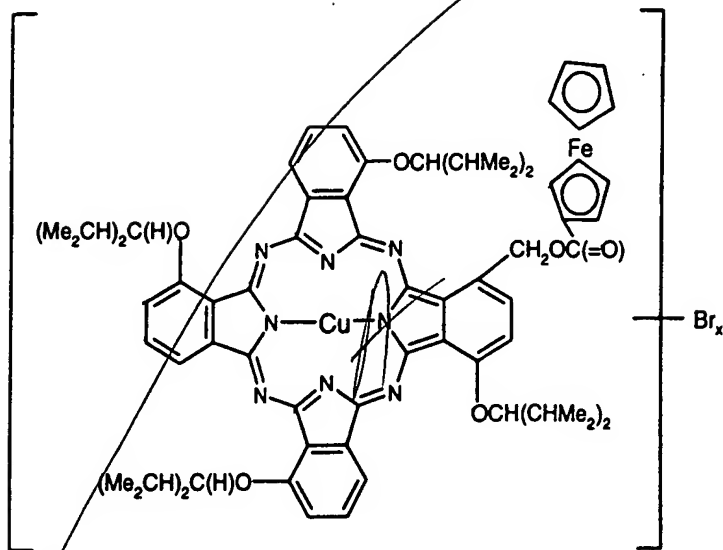
3. A metallocenyl-phthalocyanine of formula



where $x = 2.6$ to 3.0 , preferably 2.7 to 2.9 , more preferably 2.8

4. A metallocenyl-phthalocyanine of formula

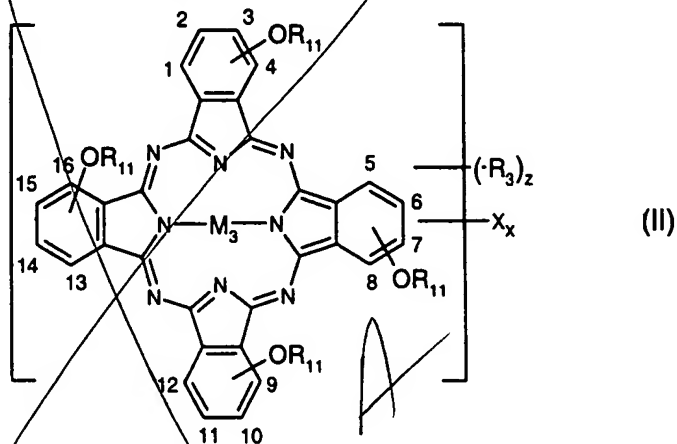
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where $x = 0$ to 0.5

5. A mixture, which comprises

(a) 60 to 95 mol % of a compound II



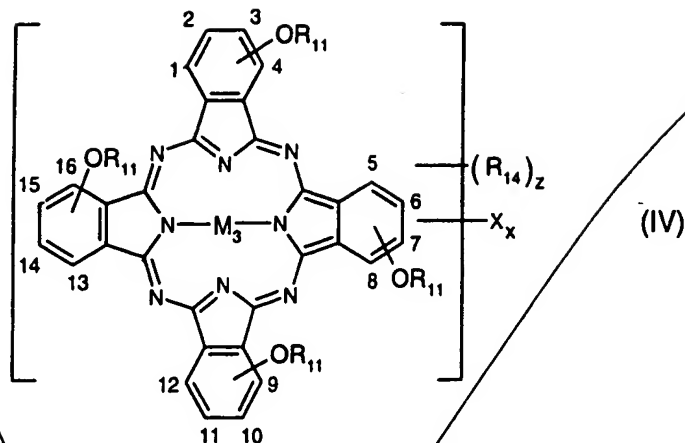
containing one radical R_3 ($z = 1$),

(b) 5 to 20 mol % of a compound II containing two radicals R_3 ($z = 2$),

and

(c) 0 to 25 mol % of a compound IV

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wherein $-OR_{11}$, $R_3 = R_{14}$, X and M_3 each have the same meaning in formulae II and IV and are as defined in claim 2, the mol-% amounts making up 100%.

6. A mixture, which comprises

(a) 60 to 95 mol % of a compound II according to claim 5,

wherein R_{11} is C_1 - C_{12} alkyl and M_3 is palladium or copper, and z is 1,

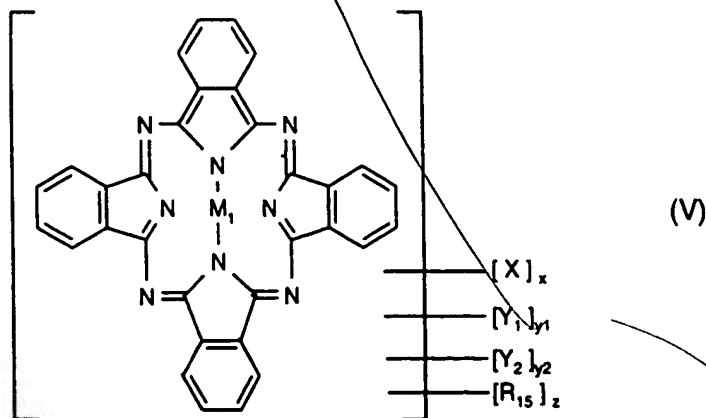
(b) 5 to 20 mol % of a compound II according to claim 5 containing two R_3 ($z = 2$), and

(c) 0 to 25 mol % of a compound IV according to claim 5,

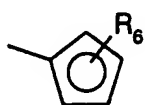
wherein R_{14} may be $-CHO$, $-CH_2OH$, $-COOH$, $-CH_2OC(O)-C_1-C_4$ alkyl or an acetal, and z may be 1 or 2,

wherein $-OR_{11}$, $R_3 = R_{14}$, X and M_3 each have the same meanings in formulae II and IV and are as defined for claim 2, the mol-% amounts making up 100%.

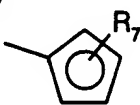
7. A process for the preparation of the metallocenyl-phthalocyanine according to claim 1 by esterifying a phthalocyanine with a metallocene derivative, wherein the phthalocyanine used is the phthalocyanine of formula V



wherein R_{15} may be a hydroxy-, carboxy- or acid chloride-containing radical, and the other radicals are as defined in claim 2, and wherein the metallocene derivative used is a compound selected from the group consisting of a hydroxy-, carboxy- and acid chloride-containing metallocene, the esterification being carried out in a manner known per se by reacting the phthalocyanine V (or the metallocene) containing a hydroxy-containing radical with the corresponding metallocene (or phthalocyanine) containing a carboxy- or acid chloride-containing radical, and wherein Cp is



and Cp' is



, and R_6 and R_7 are as defined in claim 2.

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8. Method of using the compound according to claim 1 in a manner known per se for the production of an optical recording medium.

9. An optical recording medium, which comprises a metallocenyl-phthalocyanine according to claim 1.

10. An optical recording medium according to claim 9, which consists of a transparent substrate, a recording layer on that substrate, a reflection layer on the recording layer and, if desired, a final protective layer, the recording layer comprising the metallocenyl-phthalocyanine according to claim 1.

11. Method of using the optical recording medium according to claim 9 for the optical recording, storage and reproduction of information, for the production of diffractive-optical elements or for the recording of holograms in a manner known per se.

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